

WHAT IS CLAIMED IS:

1. An IC package comprising:

an IC chip;

a substrate including a conductive layer; and

a heat-radiating mechanism that is mounted on the substrate, disposed between the IC chip and the substrate, and dissipates heat of the IC chip,

wherein terminals of the IC chip and the heat-radiating mechanism are electrically connected, and the heat-radiating mechanism and the conductive layer of the substrate are electrically connected.

2. The IC package of claim 1, wherein the IC chip is fixed on the heat-radiating mechanism.

3. The IC package of claim 1, wherein the IC chip and the heat-radiating mechanism are electrically connected by wire bonding.

4. The IC package of claim 1, wherein the IC chip and the heat-radiating mechanism are electrically connected by a conductive material.

5. The IC package of claim 1, further including an insulating layer between the heat-radiating mechanism and the conductive layer of the substrate, wherein the heat-radiating mechanism and the conductive layer of the substrate are electrically connected via connection members disposed in plural through-holes disposed in the insulating layer.

6. The IC package of claim 1, wherein the terminals of the IC chip are ground terminals and the conductive layer is a ground layer.

7. The IC package of claim 1, wherein the terminals of the IC chip are power terminals and the conductive layer is a power layer.

8. The IC package of claim 1, wherein the heat-radiating mechanism comprises a heat sink.

9. The IC package of claim 1, wherein the heat-radiating mechanism comprises plural heat sinks, and at least part of each heat sink is disposed below the IC chip.

10. The IC package of claim 9, wherein the plural heat sinks are disposed so as to be separate from each other.

11. A connection structure comprising:

an IC chip;

a substrate disposed with a conductive layer; and

a heat-radiating mechanism that is mounted on the substrate, disposed between the IC chip and the substrate, and dissipates heat of the IC chip,

wherein terminals of the IC chip are electrically connected to the conductive layer via the heat-radiating mechanism.

12. The connection structure of claim 11, wherein the IC chip and the heat-

radiating mechanism are electrically connected by wire bonding.

13. The connection structure of claim 11, wherein the IC chip and the heat-radiating mechanism are electrically connected by a conductive material.

14. The connection structure of claim 11, further including an insulating layer between the heat-radiating mechanism and the conductive layer of the substrate, wherein the heat-radiating mechanism and the conductive layer of the substrate are electrically connected via connection members disposed in plural through-holes disposed in the insulating layer.

15. A method of connecting an IC chip and a substrate including a conductive layer sandwiched between insulating layers, the method comprising the steps of:

- (a) disposing a heat-radiating mechanism between the IC chip and the substrate;

- (b) fixing the IC chip to the heat-radiating mechanism;

- (c) disposing plural through-holes in at least one of the insulating layers; and

- (d) disposing connection members in the through-holes so that the heat-radiating mechanism and the conductive layer of the substrate are electrically connected via the connection members.

16. An electrical device disposed with an IC package that includes: an IC chip; a substrate including a conductive layer; and a heat-radiating mechanism that is

mounted on the substrate, disposed between the IC chip and the substrate, and dissipates heat of the IC chip, wherein terminals of the IC chip and the heat-radiating mechanism are electrically connected, and the heat-radiating mechanism and the conductive layer of the substrate are electrically connected.

17. An electrical device disposed with a connection structure that includes: an IC chip; a substrate disposed with a conductive layer; and a heat-radiating mechanism that is mounted on the substrate, disposed between the IC chip and the substrate, and dissipates heat of the IC chip, wherein terminals of the IC chip are electrically connected to the conductive layer via the heat-radiating mechanism.